Amendments to the Claims

The listing of claims will replace all prior versions, and listings of claims in the application.

1. (Previously presented) A method of making at least one nucleic acid molecule, said method comprising

(a) combining, in a mixture, at least one nucleic acid template, at least one polymerase or at least one reverse transcriptase, and an enzyme selected from the group consisting of a pentosyltransferase, a phosphotransferase with an alcohol group as acceptor, a nucleotidyltransferase, and a carboxy-lyase; and

(b) incubating said mixture under conditions sufficient to make one or more first nucleic acid molecules complementary to all or a portion of said nucleic acid template.

2-51. (Canceled).

52. (Previously presented) The method of claim 1, wherein said enzyme is a pentosyltransferase.

53. (Previously presented) The method of claim 52, wherein said enzyme is an adenine phosphoribosyltransferase or an orotate phosphoribosyltransferase.

54. (Previously presented) The method of claim 1, wherein said enzyme is a phosphotransferase with an alcohol group as acceptor.

55. (Previously presented) The method of claim 54, wherein said enzyme is a pyrophosphate: glycerol phosphotransferase, a pyrophosphate: serine phosphotransferase, a pyrophosphate: fructose-6-phosphate 1-phosphotransferase or a pyrophosphate: purine nucleoside kinase.

56. (Previously presented) The method of claim 1, wherein said enzyme is a nucleotidyltransferase.

57. (Previously presented) The method of claim 56, wherein said enzyme is an ATP: sulfate adenylyltransferase, a UTP: glucose-1-phosphate uridylyltransferase or an ATP: glucose-1-phosphate adenylyltransferase.

58. (Previously presented) The method of claim 1, wherein said enzyme is a carboxy-lyase.

59. (Previously presented) The method of claim 58, wherein said enzyme is a phosphoenolpyruvate carboxykinase.

60. (Previously presented) The method of claim 1, wherein said reverse transcriptase is a retroviral reverse transcriptase.

61. (Previously presented) The method of claim 1, wherein said reverse transcriptase is an AMV reverse transcriptase or a RSV reverse transcriptase.

62. (Previously presented) The method of claim 1, further comprising:

(c) incubating said one or more first nucleic acid molecules under conditions sufficient to synthesize one or more second nucleic acid molecules complementary to all or a portion of said one or more first nucleic acid molecules.

63. (Previously presented) The method of claim 1, wherein said polymerase is an RNA polymerase or a DNA polymerase.

64. (Previously presented) The method of claim 63, wherein said DNA polymerase is thermostable.

65. (Currently amended) A composition comprising:

(a) an enzyme selected from the group consisting of a pentosyltransferase, a phosphotransferase with an alcohol group as acceptor, a nucleotidyltransferase, and a carboxy-lyase; and

(b) at least one polymerase or at least one reverse transcriptase.

66. (Previously presented) The composition of claim 65, wherein said enzyme of (a) is a pentosyltransferase.

67. (Previously presented) The composition of claim 66, wherein said enzyme of (a) is an adenine phosphoribosyltransferase or an orotate phosphoribosyltransferase.

68. (Previously presented) The composition of claim 65, wherein said enzyme of (a) is a phosphotransferase with an alcohol group as acceptor.

69. (Previously presented) The composition of claim 68, wherein said enzyme of (a) is a pyrophosphate: glycerol phosphotransferase, a pyrophosphate: serine phosphotransferase, a pyrophosphate: fructose-6-phosphate 1-phosphotransferase or a pyrophosphate: purine nucleoside kinase.

70. (Previously presented) The composition of claim 65, wherein said enzyme of (a) is a nucleotidyltransferase.

71. (Previously presented) The composition of claim 70, wherein said enzyme is an ATP: sulfate adenylyltransferase, a UTP: glucose-1-phosphate uridylyltransferase or an ATP: glucose-1-phosphate adenylyltransferase.

72. (Previously presented) The composition of claim 65, wherein said enzyme of (a) is a carboxy-lyase.

73. (Previously presented) The composition of claim 72, wherein said enzyme of (a) is a phosphoenolpyruvate carboxykinase.

74. (Previously presented) The composition of claim 65, further comprising a substrate which is capable of either accepting a phosphate radical to give a phosphorylated product from pyrophosphate or effecting transfer of pyrophosphate when in the presence of said enzyme of (a).

75. (Previously presented) The composition of claim 65, wherein said reverse transcriptase is a retroviral reverse transcriptase.

76. (Previously presented) The composition of claim 65, wherein said reverse transcriptase is an AMV reverse transcriptase or a RSV reverse transcriptase.

77. (Previously presented) The composition of claim 65, wherein said polymerase is an RNA polymerase or a DNA polymerase.

78. (Previously presented) The composition of claim 77, wherein said DNA polymerase is thermostable.

79. (Currently amended) A kit comprising an enzyme selected from the group consisting of a pentosyltransferase, a phosphotransferase with an alcohol group as acceptor, a nucleotidyltransferase, and a carboxy-lyase, a substrate which is capable of either accepting a phosphate radical to give a phosphorylated product from pyrophosphate or effecting transfer of pyrophosphate when in the presence of said enzyme; and

at least one polymerase or at least one reverse transcriptase.

80. (Previously presented) The kit of claim 79, wherein said reverse transcriptase is a retroviral reverse transcriptase.

81. (Previously presented) The kit of claim 79, wherein said reverse transcriptase is an AMV reverse transcriptase or a RSV reverse transcriptase.

82. (Previously presented) The kit of claim 79, wherein said polymerase is an RNA polymerase or a DNA polymerase.

83. (Previously presented) The kit of claim 82, wherein said DNA polymerase is thermostable.

84. (Previously presented) The method of claim 62, further comprising amplifying said first nucleic acid molecules or said second nucleic acid molecules.